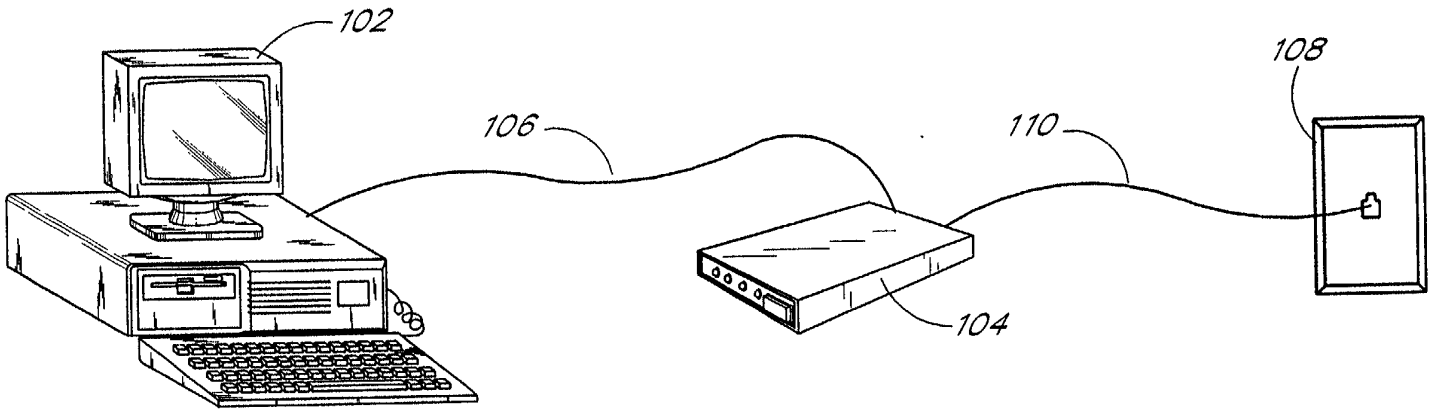


FIG. 1A

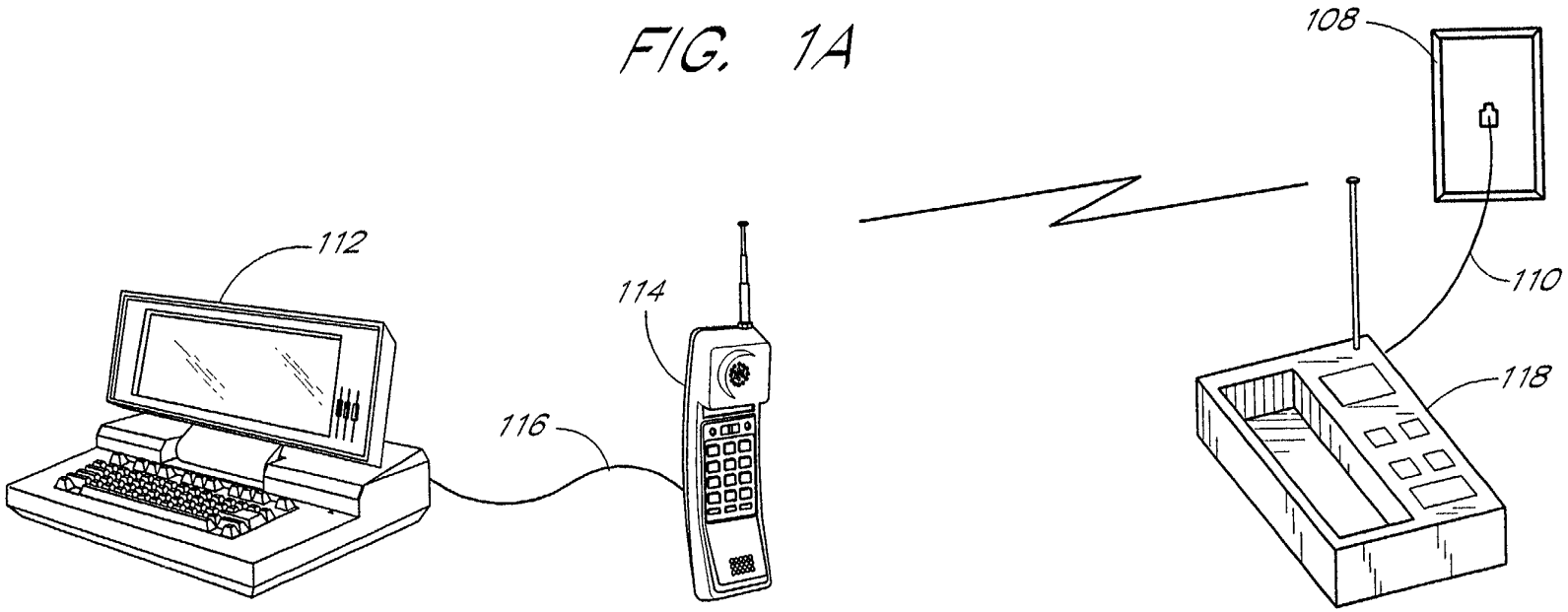


FIG. 1B

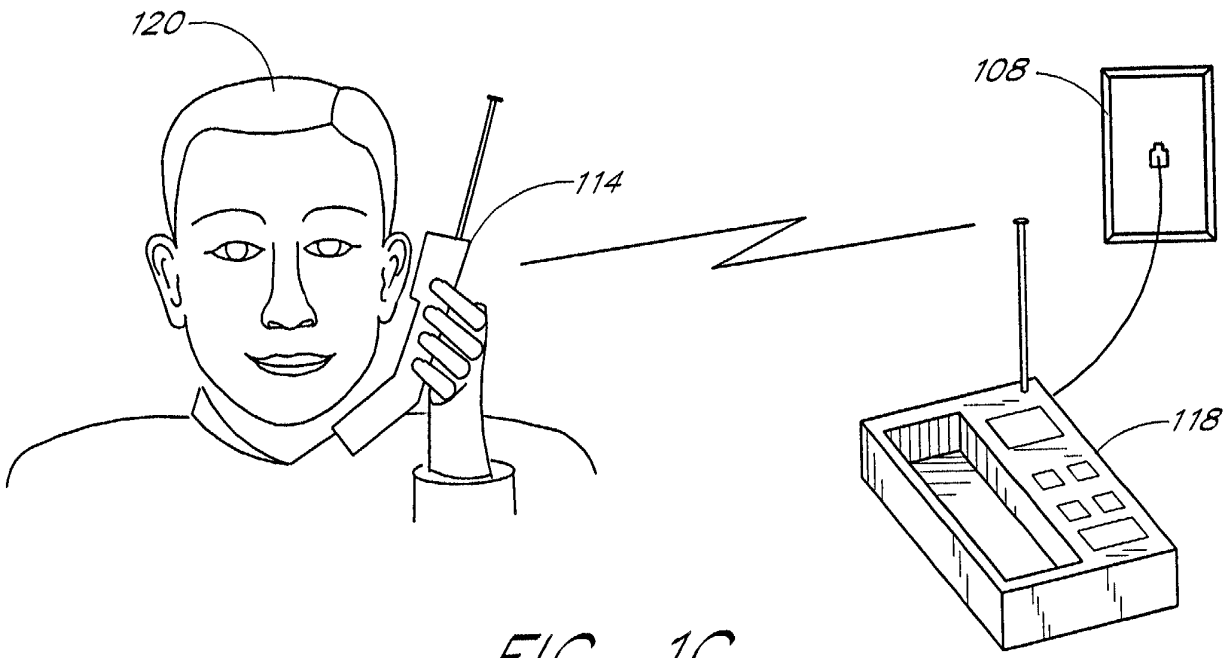


FIG. 1C

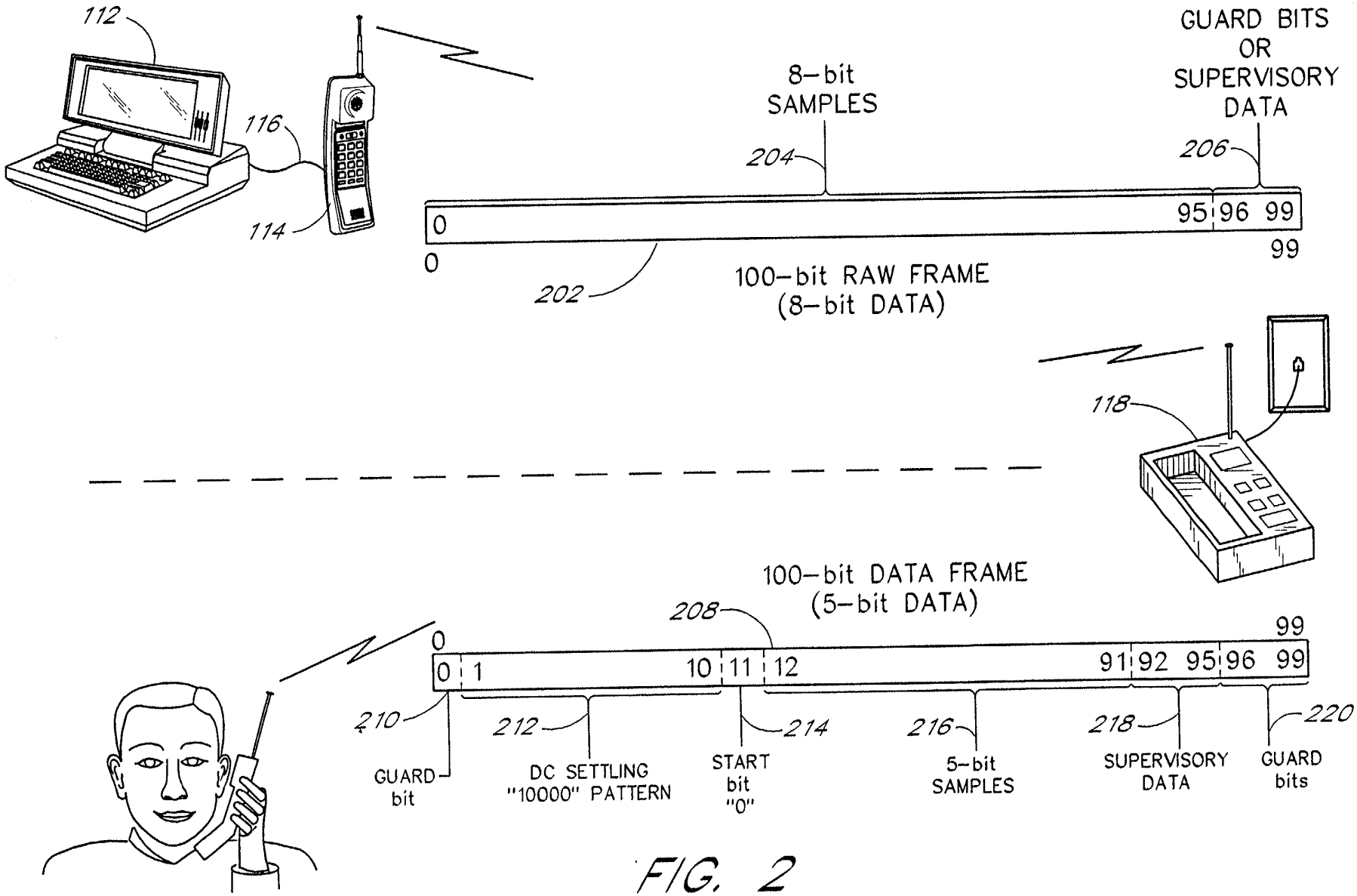


FIG. 2

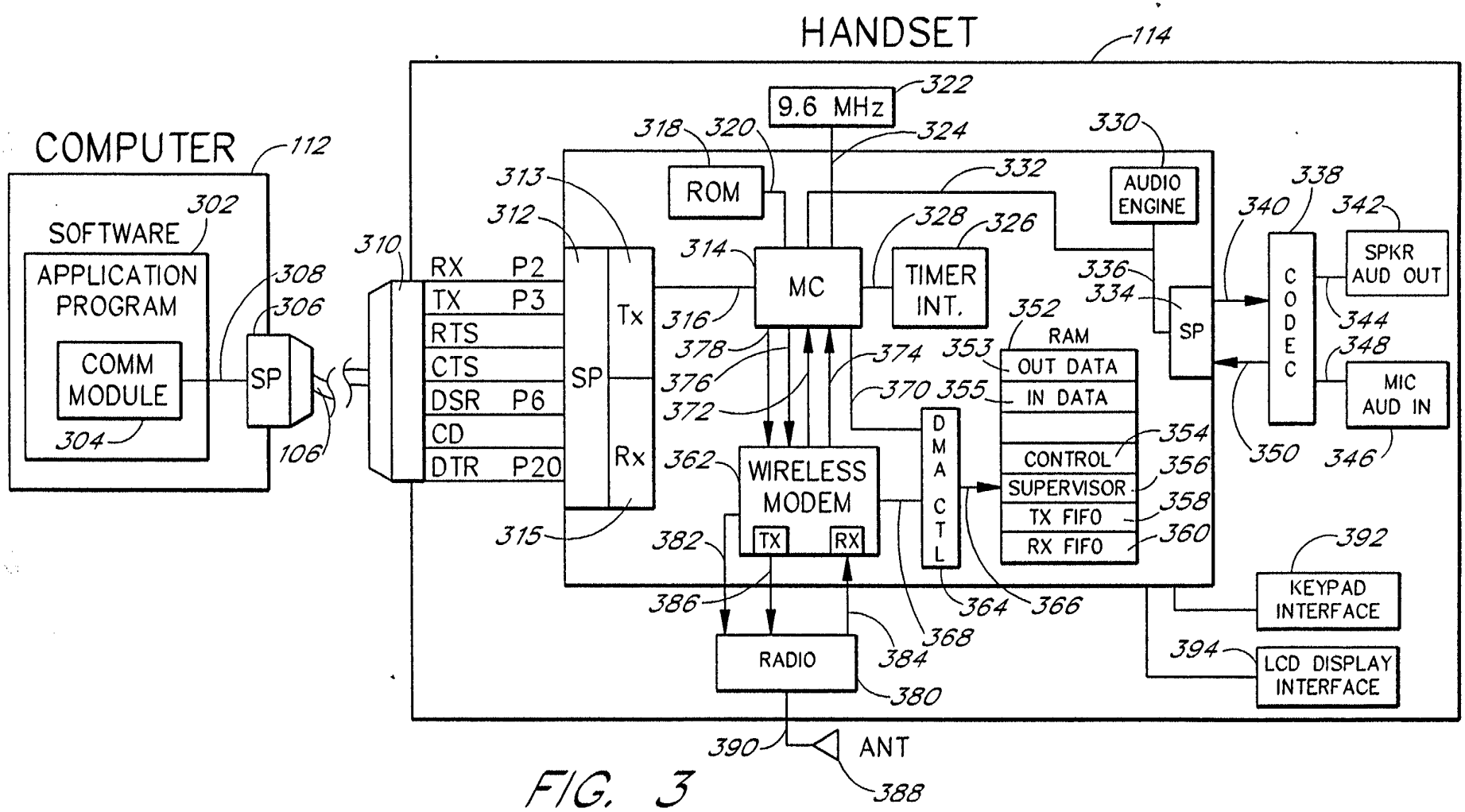


FIG. 3

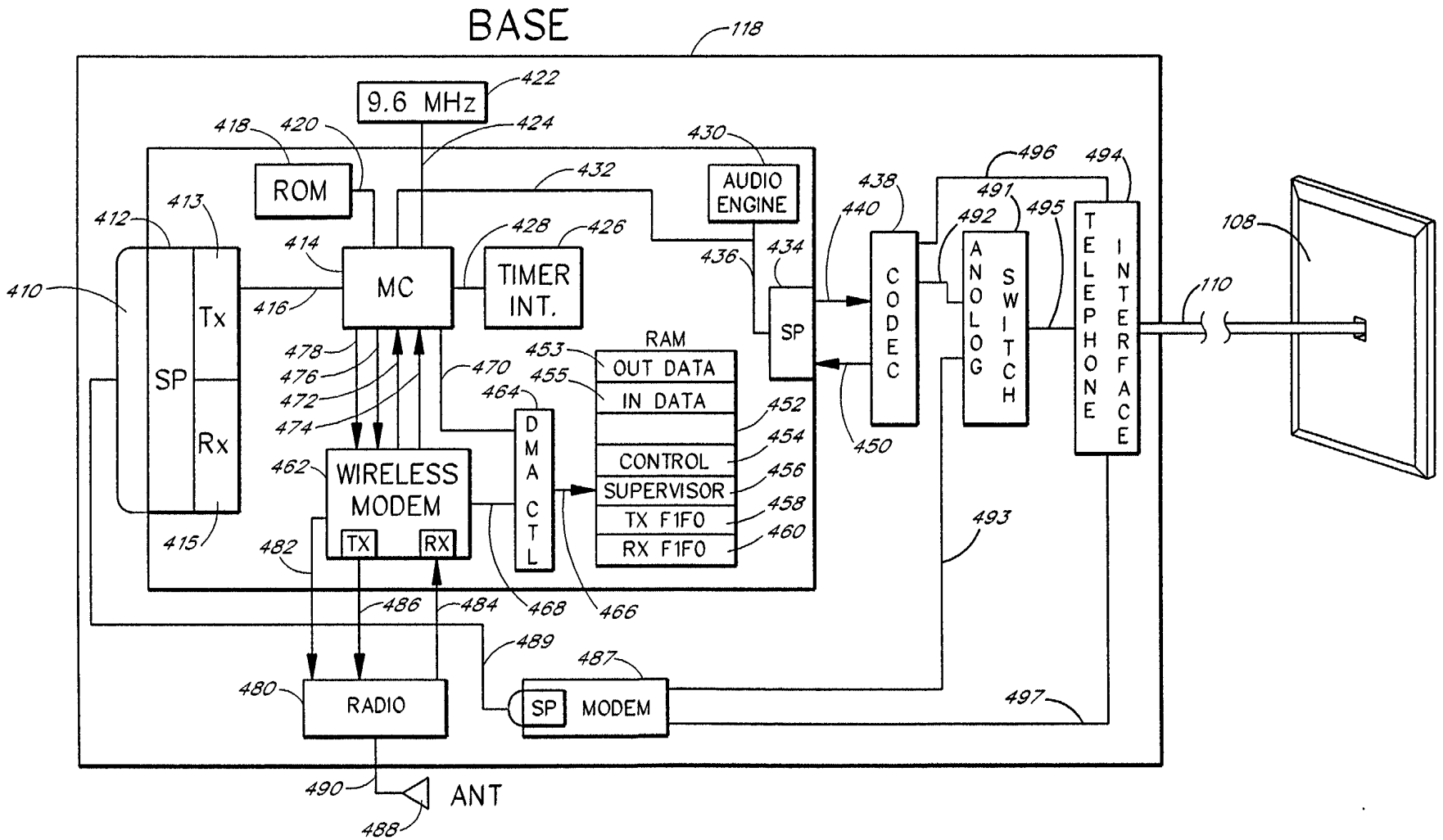

BASE
118
9.6 MHz
422
424
418
420
ROM
430
AUDIO ENGINE
432
496
494
438
491
440
492
495
412
413
414
MC
428
426
TIMER INT.
436
434
410
Tx
Rx
SP
416
478
476
472
474
470
RAM
453
OUT DATA
455
IN DATA
464
452
454
CONTROL
456
SUPERVISOR
458
TX F1FO
460
RX F1FO
462
WIRELESS MODEM
TX
RX
DMACTL
415
482
468
466
450
CODEC
ANALOG SWITCH
TELEPHONE INTERFACE
108
110
493
486
484
489
487
480
RADIO
SP
MODEM
497
490
ANT
488

FIG. 4

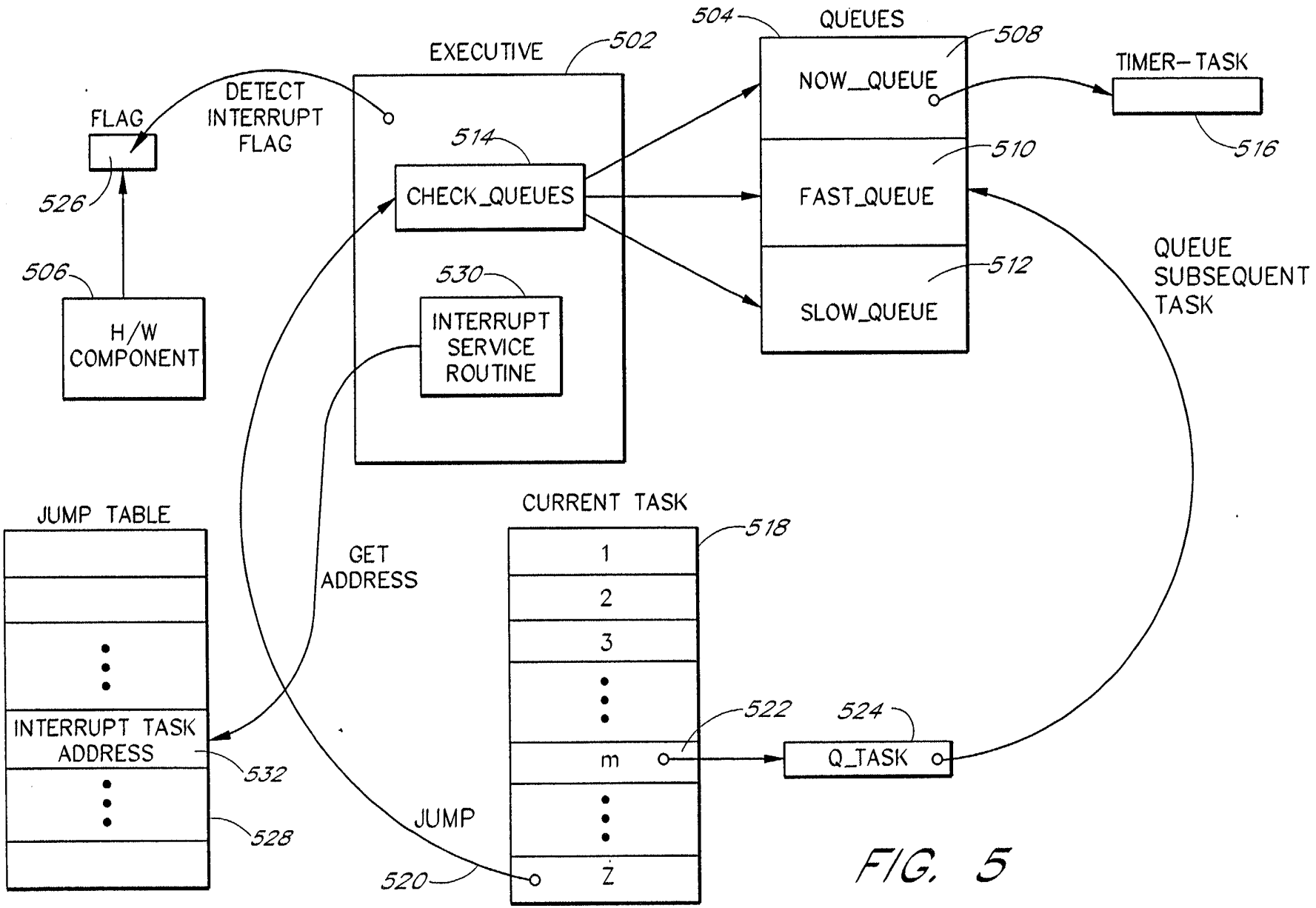

504
QUEUES
508
EXECUTIVE
502
TIMER–TASK
NOW_QUEUE
DETECT
INTERRUPT
FLAG
FLAG
514
516
526
CHECK_QUEUES
510
FAST_QUEUE
506
530
512
QUEUE
SUBSEQUENT
TASK
H/W
COMPONENT
INTERRUPT
SERVICE
ROUTINE
SLOW_QUEUE
JUMP TABLE
CURRENT TASK
518
GET
ADDRESS
1
2
3
INTERRUPT TASK
ADDRESS
522
524
m
Q_TASK
532
528
JUMP
520
Z

FIG. 5

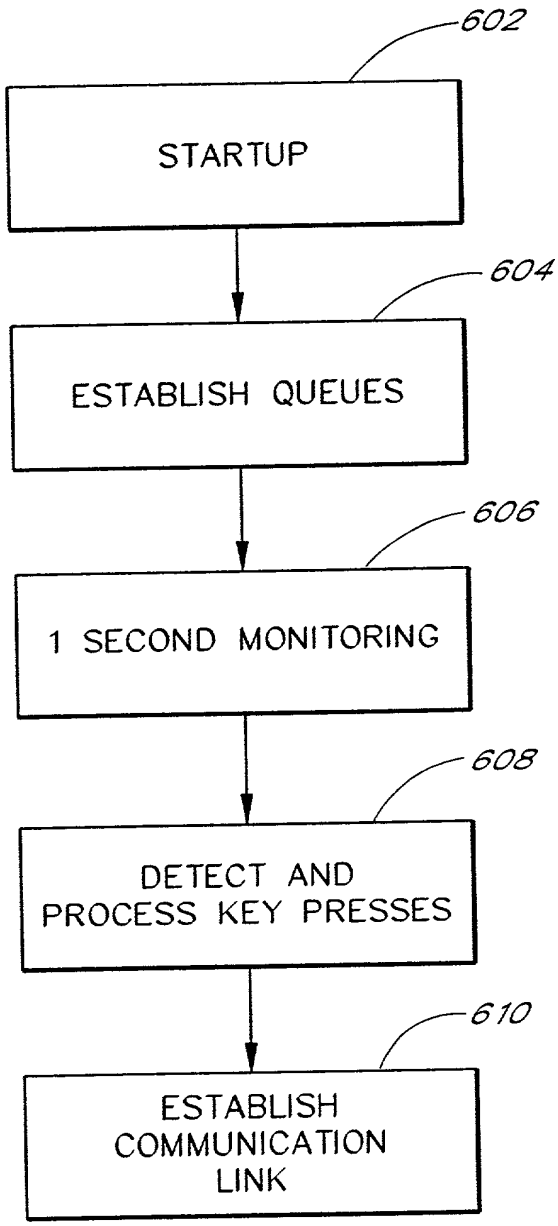

602
STARTUP
604
ESTABLISH QUEUES
606
1 SECOND MONITORING
608
DETECT AND PROCESS KEY PRESSES
610
ESTABLISH COMMUNICATION LINK

FIG. 6

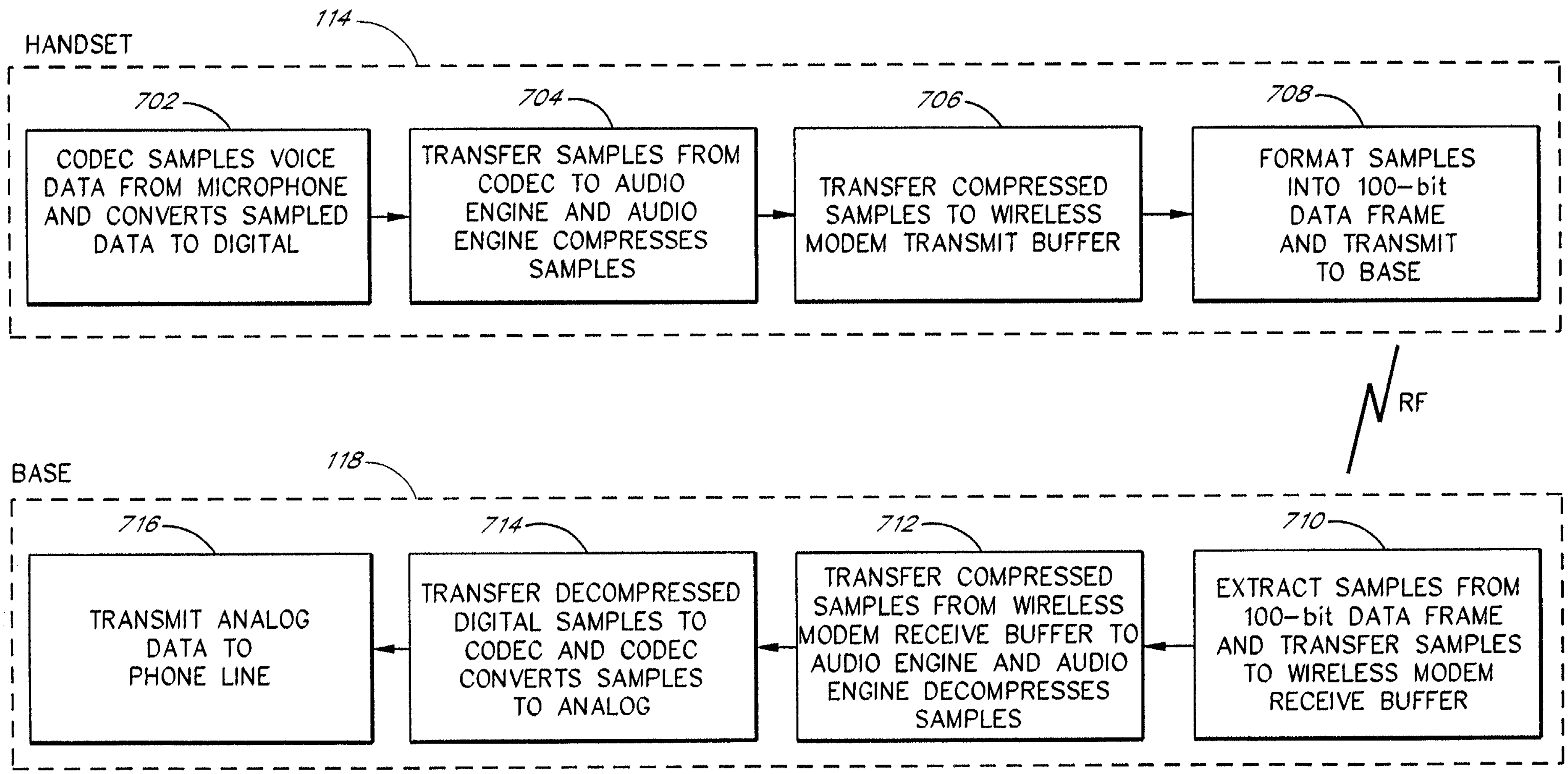

HANDSET
114
702
CODEC SAMPLES VOICE DATA FROM MICROPHONE AND CONVERTS SAMPLED DATA TO DIGITAL
704
TRANSFER SAMPLES FROM CODEC TO AUDIO ENGINE AND AUDIO ENGINE COMPRESSES SAMPLES
706
TRANSFER COMPRESSED SAMPLES TO WIRELESS MODEM TRANSMIT BUFFER
708
FORMAT SAMPLES INTO 100-bit DATA FRAME AND TRANSMIT TO BASE
RF
BASE
118
710
EXTRACT SAMPLES FROM 100-bit DATA FRAME AND TRANSFER SAMPLES TO WIRELESS MODEM RECEIVE BUFFER
712
TRANSFER COMPRESSED SAMPLES FROM WIRELESS MODEM RECEIVE BUFFER TO AUDIO ENGINE AND AUDIO ENGINE DECOMPRESSES SAMPLES
714
TRANSFER DECOMPRESSED DIGITAL SAMPLES TO CODEC AND CODEC CONVERTS SAMPLES TO ANALOG
716
TRANSMIT ANALOG DATA TO PHONE LINE

FIG. 7

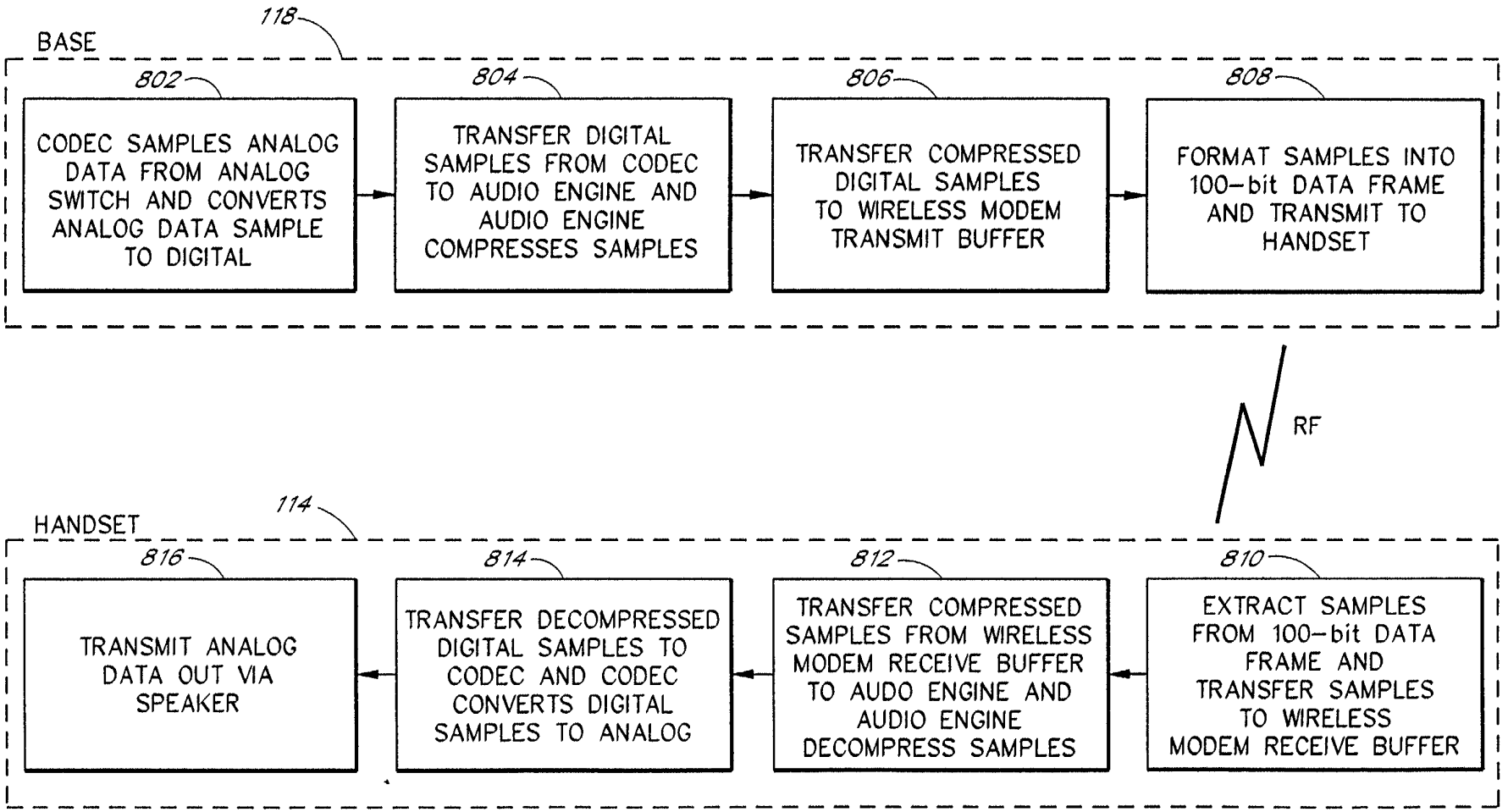

118
BASE
802
CODEC SAMPLES ANALOG DATA FROM ANALOG SWITCH AND CONVERTS ANALOG DATA SAMPLE TO DIGITAL
804
TRANSFER DIGITAL SAMPLES FROM CODEC TO AUDIO ENGINE AND AUDIO ENGINE COMPRESSES SAMPLES
806
TRANSFER COMPRESSED DIGITAL SAMPLES TO WIRELESS MODEM TRANSMIT BUFFER
808
FORMAT SAMPLES INTO 100-bit DATA FRAME AND TRANSMIT TO HANDSET
RF
114
HANDSET
816
TRANSMIT ANALOG DATA OUT VIA SPEAKER
814
TRANSFER DECOMPRESSED DIGITAL SAMPLES TO CODEC AND CODEC CONVERTS DIGITAL SAMPLES TO ANALOG
812
TRANSFER COMPRESSED SAMPLES FROM WIRELESS MODEM RECEIVE BUFFER TO AUDO ENGINE AND AUDIO ENGINE DECOMPRESS SAMPLES
810
EXTRACT SAMPLES FROM 100-bit DATA FRAME AND TRANSFER SAMPLES TO WIRELESS MODEM RECEIVE BUFFER

FIG. 8

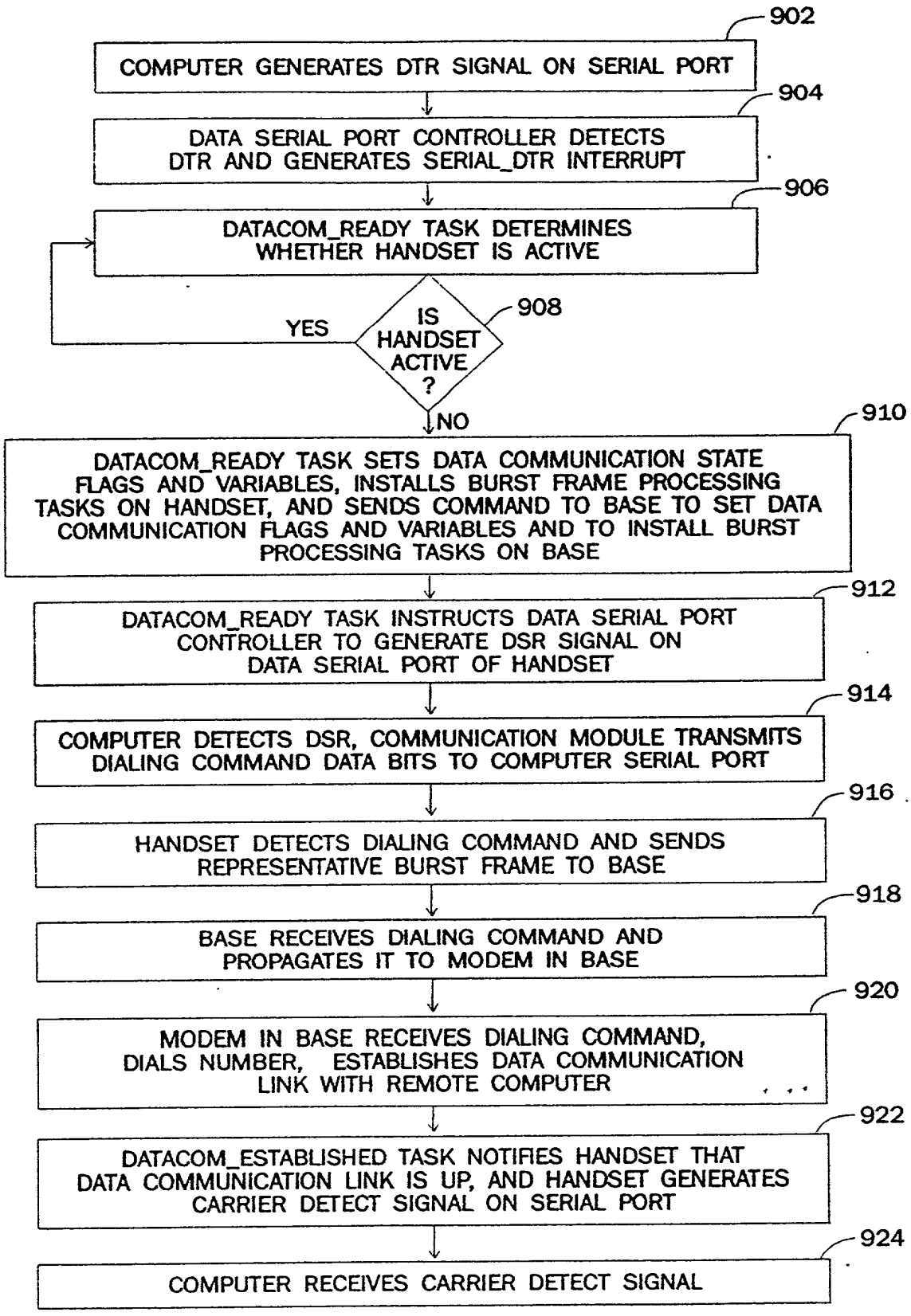

902
COMPUTER GENERATES DTR SIGNAL ON SERIAL PORT
904
DATA SERIAL PORT CONTROLLER DETECTS DTR AND GENERATES SERIAL_DTR INTERRUPT
906
DATACOM_READY TASK DETERMINES WHETHER HANDSET IS ACTIVE
908
IS HANDSET ACTIVE ?
YES
NO
910
DATACOM_READY TASK SETS DATA COMMUNICATION STATE FLAGS AND VARIABLES, INSTALLS BURST FRAME PROCESSING TASKS ON HANDSET, AND SENDS COMMAND TO BASE TO SET DATA COMMUNICATION FLAGS AND VARIABLES AND TO INSTALL BURST PROCESSING TASKS ON BASE
912
DATACOM_READY TASK INSTRUCTS DATA SERIAL PORT CONTROLLER TO GENERATE DSR SIGNAL ON DATA SERIAL PORT OF HANDSET
914
COMPUTER DETECTS DSR, COMMUNICATION MODULE TRANSMITS DIALING COMMAND DATA BITS TO COMPUTER SERIAL PORT
916
HANDSET DETECTS DIALING COMMAND AND SENDS REPRESENTATIVE BURST FRAME TO BASE
918
BASE RECEIVES DIALING COMMAND AND PROPAGATES IT TO MODEM IN BASE
920
MODEM IN BASE RECEIVES DIALING COMMAND, DIALS NUMBER, ESTABLISHES DATA COMMUNICATION LINK WITH REMOTE COMPUTER
922
DATACOM_ESTABLISHED TASK NOTIFIES HANDSET THAT DATA COMMUNICATION LINK IS UP, AND HANDSET GENERATES CARRIER DETECT SIGNAL ON SERIAL PORT
924
COMPUTER RECEIVES CARRIER DETECT SIGNAL

FIG. 9

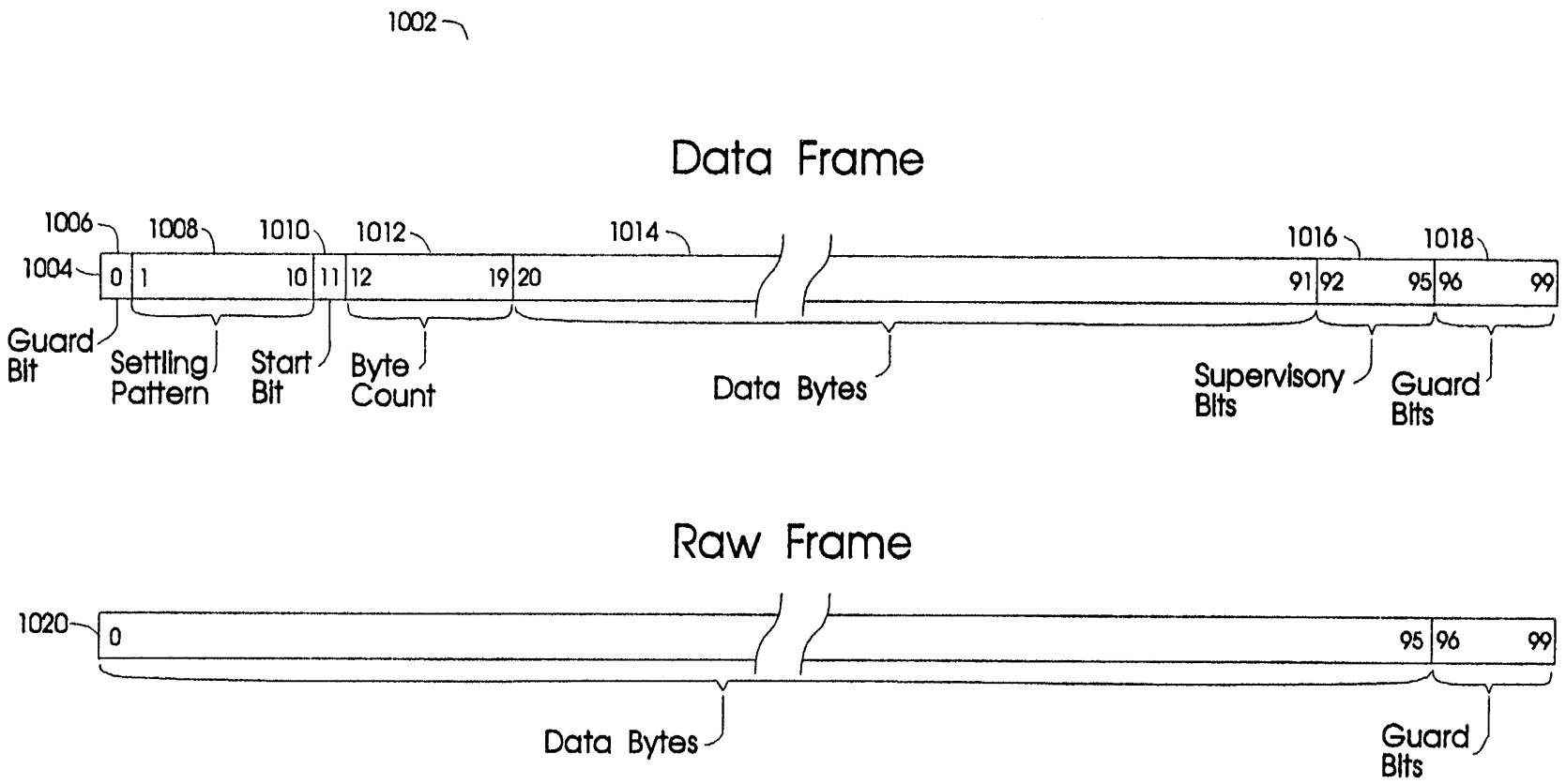
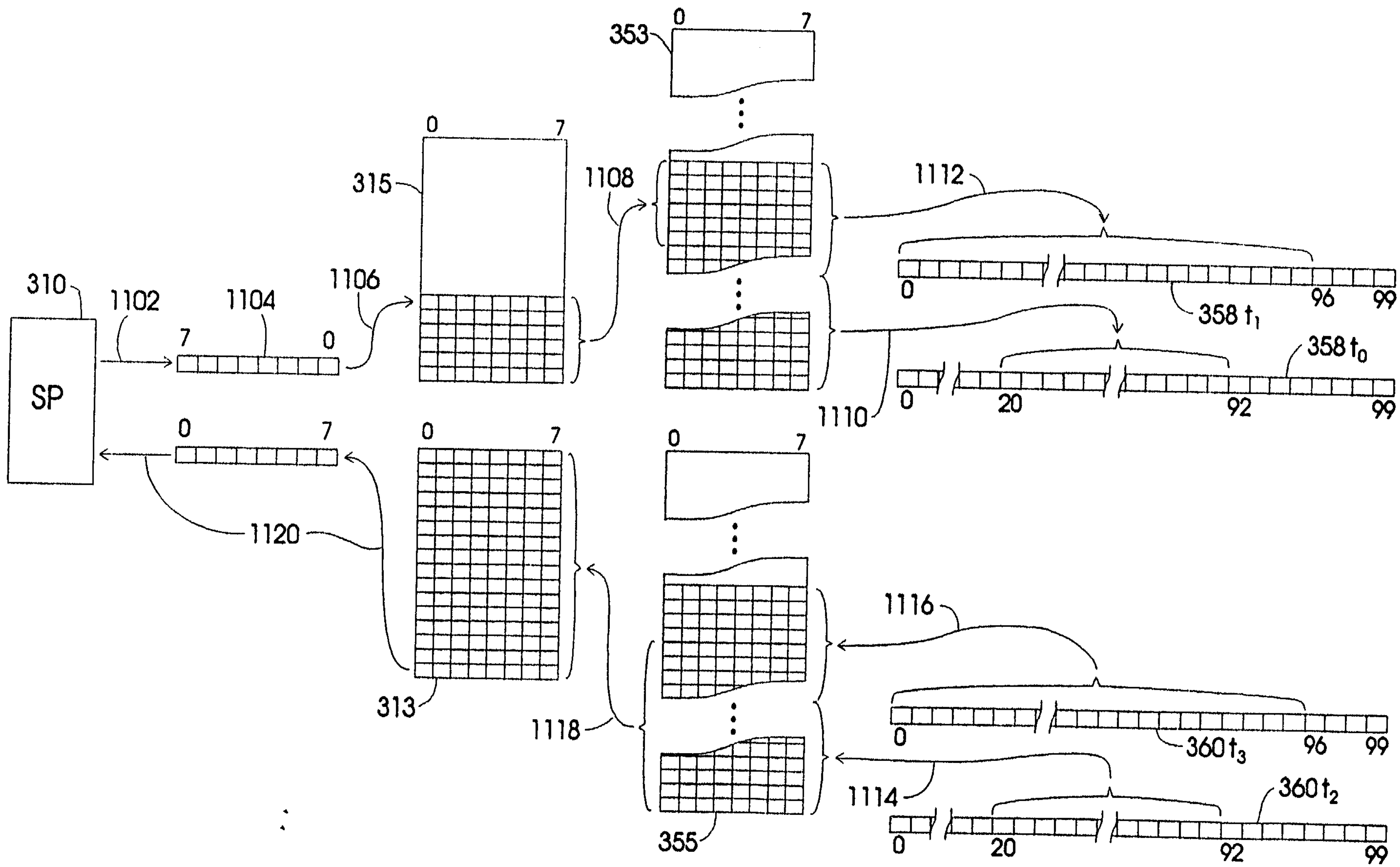


Fig. 10



SP
310
1102
1104
1106
1108
1110
1112
1114
1116
1118
1120
315
313
353
355
0
7
20
92
96
99
358 t_1
358 t_0
360 t_3
360 t_2

Fig. 11

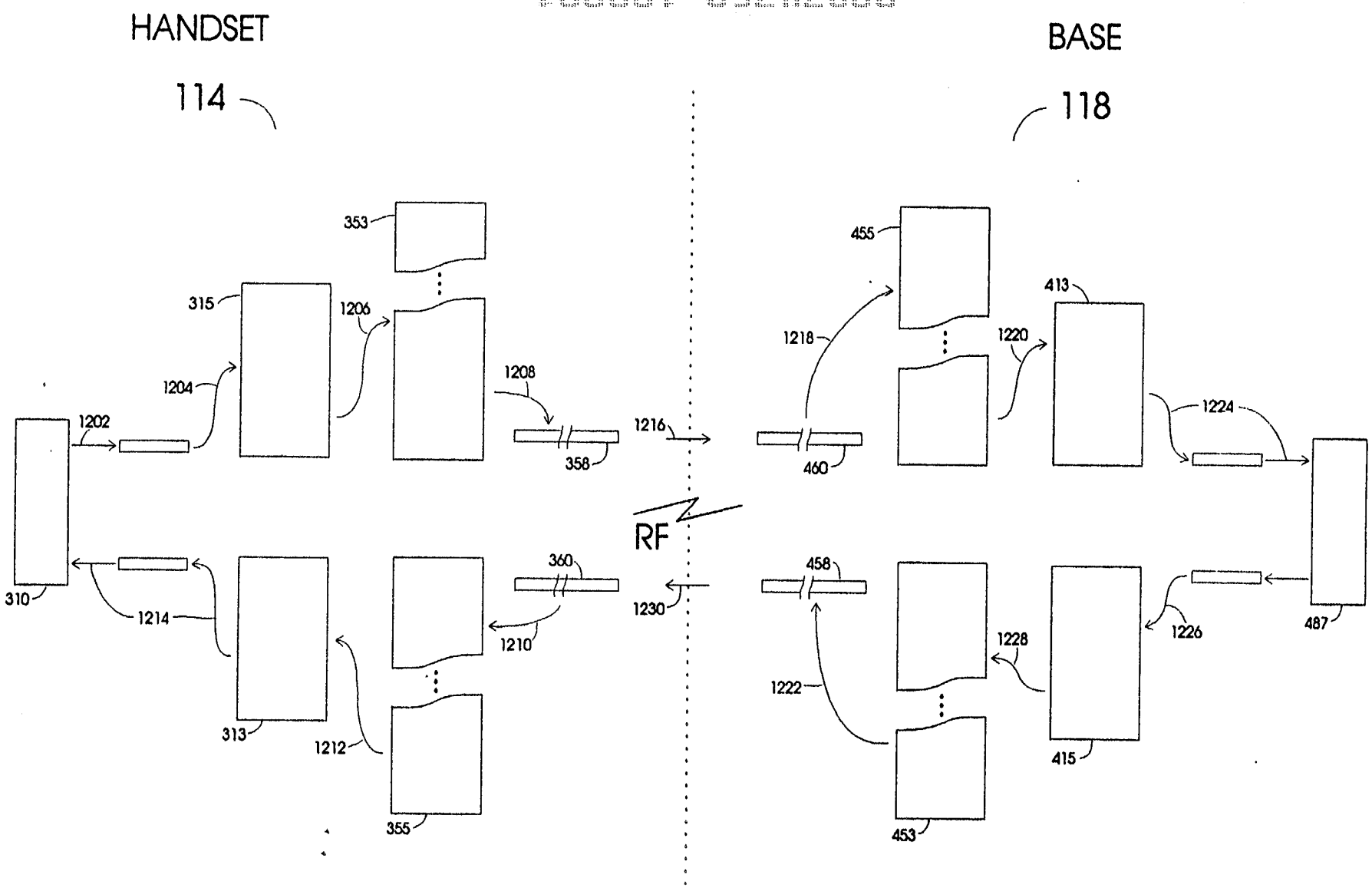


Fig. 12

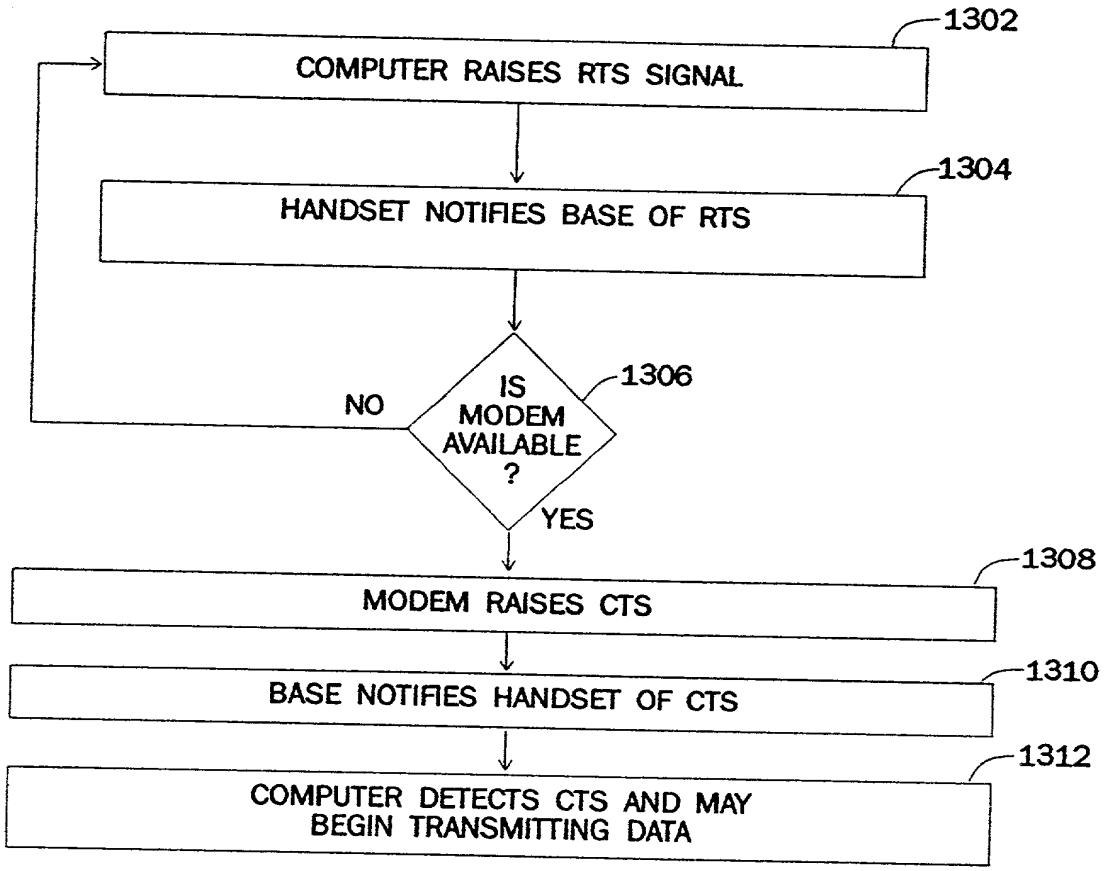

1302
COMPUTER RAISES RTS SIGNAL
1304
HANDSET NOTIFIES BASE OF RTS
1306
IS MODEM AVAILABLE ?
NO
YES
1308
MODEM RAISES CTS
1310
BASE NOTIFIES HANDSET OF CTS
1312
COMPUTER DETECTS CTS AND MAY BEGIN TRANSMITTING DATA

FIG. 13

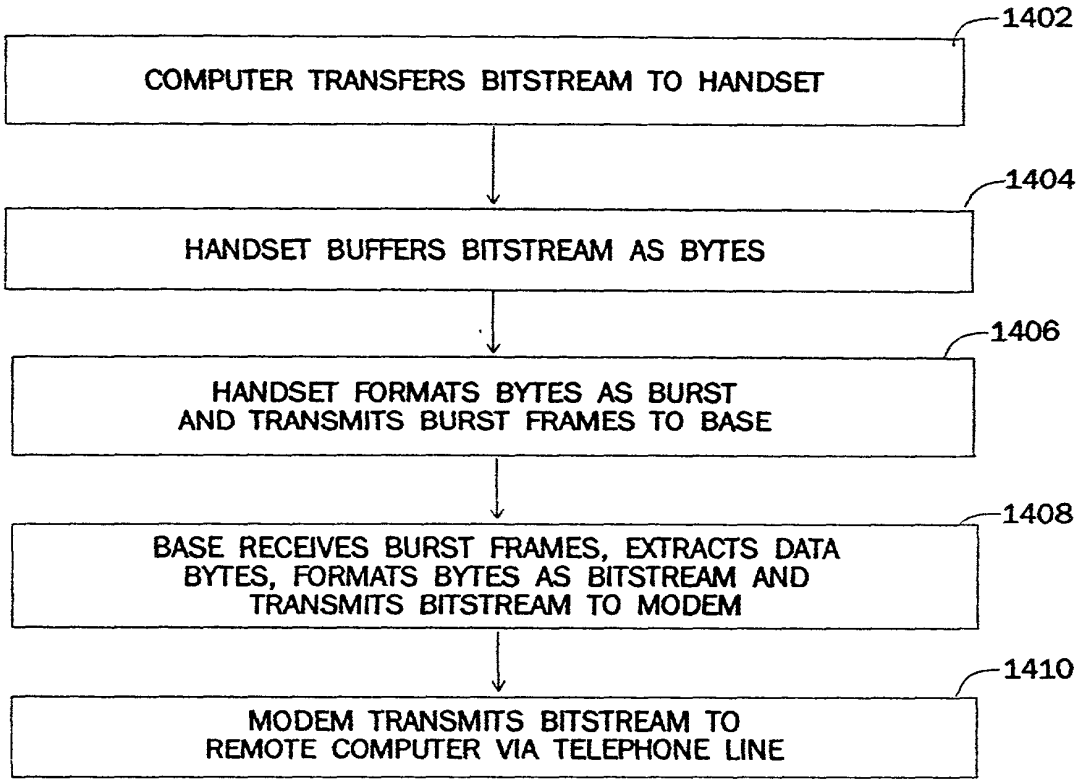

1402
COMPUTER TRANSFERS BITSTREAM TO HANDSET
1404
HANDSET BUFFERS BITSTREAM AS BYTES
1406
HANDSET FORMATS BYTES AS BURST AND TRANSMITS BURST FRAMES TO BASE
1408
BASE RECEIVES BURST FRAMES, EXTRACTS DATA BYTES, FORMATS BYTES AS BITSTREAM AND TRANSMITS BITSTREAM TO MODEM
1410
MODEM TRANSMITS BITSTREAM TO REMOTE COMPUTER VIA TELEPHONE LINE

FIG. 14

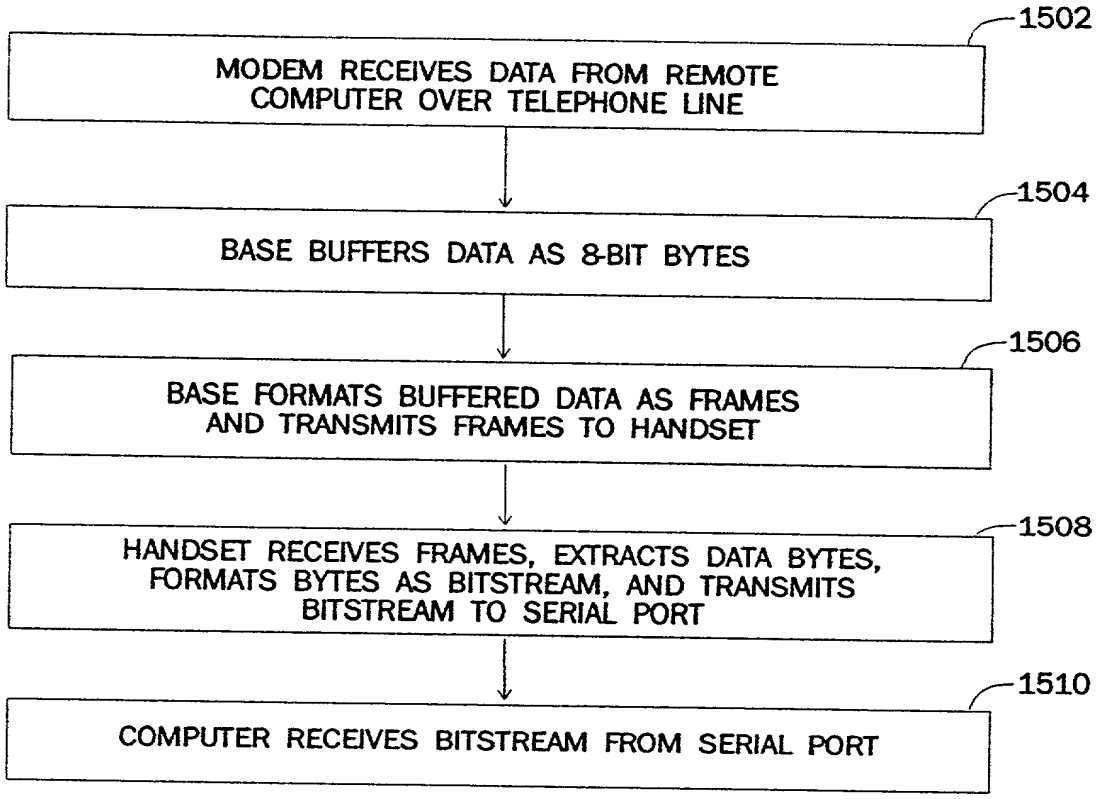

1502
MODEM RECEIVES DATA FROM REMOTE COMPUTER OVER TELEPHONE LINE
1504
BASE BUFFERS DATA AS 8-BIT BYTES
1506
BASE FORMATS BUFFERED DATA AS FRAMES AND TRANSMITS FRAMES TO HANDSET
1508
HANDSET RECEIVES FRAMES, EXTRACTS DATA BYTES, FORMATS BYTES AS BITSTREAM, AND TRANSMITS BITSTREAM TO SERIAL PORT
1510
COMPUTER RECEIVES BITSTREAM FROM SERIAL PORT

FIG. 15